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## **CLAIMS**

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- 1. An amino acid sequence comprising the sequence presented as Formula I or a variant, homologue, fragment or derivative thereof.
- 2. An amino acid sequence comprising the sequence presented as Formula I.
- 3. A nucleotide sequence encoding the amino acid sequence as defined in claim 1 of the laim 2.
  - 4. A nucleotide sequence comprising the sequence presented as SEQ ID No. 2 or SEQ ID No. 4 or SEQ ID No. 6 or a variant, homologue, fragment or derivative thereof.
  - 5. A nucleotide sequence comprising the sequence presented as SEQ ID No. 2 or SEQ ID No. 4 or SED ID No. 6.
    - 6. A nucleotide sequence that is capable of hybridising to the nucleotide sequence according to any one of claims 3 to 5.
    - 7. A nucleotide sequence that is capable of hybridising to the nucleotide sequence according to claim 6.
  - ♦ 8. A vector comprising the nucleotide sequence according to any one of claim 3 to 7.
    - 9. A host cell into which has been incorporated the nucleotide sequence according to any one of claims 3 to 7.
  - 10. An assay method for identifying an agent that can affect PDE\_XIV activity or expression, the assay method comprising

contacting an agent with an amino acid according to claim 1 or claim 2 or a nucleotide sequence according to any one of claims 3 to 7; and

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measuring the activity or expression of PDE\_XIV;

wherein a difference between a) RDE activity or expression in the absence of the agent and b)

5 PDE activity or expression in the presence of the agent is indicative that the agent can affect PDE\_XIV activity or expression.

- 11. An assay method according to claim 10 wherein the assay is to screen for agents useful in the treatment of disorders found in any one or more of the putamen, the Caudate nucleus of the brain, the Occipital lobe of the brain, the heart, ovary, the pituitary gland, kidney, liver, small intestine, thymus, skeletal muscle, leukocyte regions, dorsal root ganglia, uterus, cochlea, small intestine (duodenum), astrocytoma, and appendix.
- 12. A process comprising the steps of:
- (a) performing the assay according to claim 10 or claim 11;
- (b) identifying one or more agents that do affect PDE\_XIV activity or expression; and
- 20 (c) preparing a quantity of those one or more identified agents.
  - 13. A method of affecting in vivo PDE\_XIV activity or expression with an agent;

wherein the agent is capable of affecting PDE\_XIV activity or expression in an *in vitro* assay method;

wherein the in vitro assay method is the assay method defined in claim 10 or claim 11.

14. Use of an agent in the preparation of a pharmaceutical composition for the treatment of a disease or condition associated with PIDE\_XIV, the agent is capable of having an effect on the activity or expression of PDE when assayed *in vitro* by the assay method according to claim 10 or claim 11.

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15. An enzyme capable of having armmunological reaction with an antibody raised against PDE XIV.

16. A nucleotide sequence coding for a PDE, wherein the nucleotide sequence is obtainable from NCIMB 40995 or NCIMB 40996 or NCIMB 41027.

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- 17. A PDE wherein the PDE is expressable from a nucleotide sequence obtainable from NCIMB 40995 or NCIMB 40996 or NCIMB 41027.
- 18. Use of an agent which has an effect on the activity of PDE\_XIV or the expression thereof in the preparation of a pharmaceutical composition for the treatment of a disease or condition associated with PDE\_XIV.
- 19. Use of a PDE\_XIV gene and/or expression product thereof in the preparation of a medicament for the treatment and/or modulation of disturbances associated with an imbalance or disturbance of PDE\_XIV.
  - 20. Use according to claim 19 wherein the PDE\_XIV and/or expression product thereof is used to screen for agents that dan modulate the activity of the PDE\_XIV and/or expression product thereof.
    - 21. A PDE\_XIV agonist wherein the PDE\_XIV is as defined in claim 1 or is the nucleotide sequence coding for same.
- 25 22. A PDE\_XIV antagonist wherein the PDE\_XIV is as defined in claim 1 or is the nucleotide sequence coding for same.
  - 23. A recombinant PDE\_XIV enzyme.
- 30 24. A recombinant nucleotide sequence encoding a PDE\_XIV enzyme.
  - 25. A PDE\_XIV enzyme substantially as described herein.

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